

2/2 032

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0130022
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEVELOPMENT OF PSYCHOLOGICAL AND PHYSIOLOGICAL INVESTIGATIONS BASED ON APPLICATION OF IDEAS AND TECHNIQUES OF CYBERNETICS HELPS BRING PSYCHOLOGY AND PHYSIOLOGY OF HIGHER NERVOUS ACTIVITY CLOSER, AND MAKES IT POSSIBLE TO APPROACH SOLUTION OF THE PROBLEM OF APPLICATION OF A PSYCHOLOGICAL DESIGN ON PHYSIOLOGICAL CANVAS. GREAT POSSIBILITIES OF RAPPROCHEMENT OF PHYSIOLOGY AND PSYCHOLOGY ARE REVEALED IN THIS ASPECT WITH NEUROPSYCHOLOGICAL RESEARCH DIRECTED, AS WE KNOW, TOWARD INVESTIGATION OF CEREBRAL ORGANIZATION OF MENTAL ACTIVITY. IN THE PRESENT COMMUNICATION WE DEAL WITH SOME RESULTS AND PROSPECTS OF NEUROPSYCHOLOGICAL RESEARCH BASED ON THE CONCEPTIONS AND METHODS OF CYBERNETICS AND ITS NEWLY DEVELOPING BRANCH, BIONICS. AS THE MAIN DIRECTION OF THIS RESEARCH WE CHOSE THE PROBLEM OF PATTERN RECOGNITION. IT IS BEING DEVELOPED INTENSIVELY IN TECHNOLOGICAL CYBERNETICS, BIONICS; AND PSYCHOLOGY. FACILITY: LENINGRAD SCIENTIFIC RESEARCH INSTITUTE OF PSYCHONEUROLOGY IMENI V. M. BEKHTEREV.

UNCLASSIFIED

USSR

TONKONOGOV, M. P.; USHAKOV, V. Ya.; KIM, S. V. (Tomsk Polytechnical Institute im. S. M. Kirova, Karagandinskii Polytechnical Institute)

"Determination of the Field Intensity and Current Density in a Liquid at the Front of an Aperiodic Voltage Wave in the Pre-Discharge Period".

Tomsk, Izvestiya Vysshikh Uchebnykh Zavedeniy: Fizika; December, 1970; pp 62-5

ABSTRACT: An expression is found analytically for the variation with time of the intensity of an electrical field and the current density in the pre-discharge period in a liquid, taking into account the polarization relaxation. The problem is solved for that part of the exponential voltage wave which satisfies Ohm's law.

There is one figure showing a photograph of the discharge and oscillograms of the voltage and current. The article includes 10 equations. There are 10 references.

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USSR

UDC 616.981.51-036.21(470.65)

BONDAREV, A. I., TONKONOZHENKO, A. B., TSEGOYEVA, V. K., and BURBANOVA, Ye. I.,
Severo-Osetinsk Republican Sanitary Epidemiological Station

"Natural Foci of Anthrax in Northern Osetia"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 70,
pp 77-79

Abstract: Anthrax is widespread in the Severo-Osetinsk Autonomous Republic. No settlement in the region is free of this disease. Between 1958 and 1968, there were 239 anthrax cases among cattle and 59 cases among human beings. About 77 percent of these persons had contact with infected farm animals. In 12 percent of the cases, the source of infection was not established, a fact which indicated that rodents and ectoparasites might carry and transmit the anthrax bacillus. In the present study, 802 rodents and 5,775 Ixodes and Gamasid ticks were examined for the presence of anthrax pathogen. Bioteats were performed by injecting emulsions of the internal organs of the rodents and suspensions of the ticks into white mice. Culture media were inoculated with this material and incubated. Studies were made of the internal organs of the rodents and subjected to fluorescence microscopy. The results of all of the tests were negative. Further studies are necessary to establish

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USSR

BONDAREV, A. I., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
Vol 10, Oct 70, pp 77-79

definitely the epidemiological and epizootiological significance of anthrax
infections which occur naturally among rodents and ectoparasites.

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USSR

UDC 577.150.8:577.153.4:615.785.4

TONKOPIY, V. D., SAVATEYEV, N. V., BRESTKIN, A. P., and PANOV, A. N.,
Military Medical Academy Imeni S. M. Kirov, Institute of Evolutional
Physiology and Biochemistry Imeni I. M. Sechenov, Academy of Sciences
USSR, Leningrad

"Determination of Cholinesterase Activity in Tissues of Animals After the
Action of Reversible Inhibitors"

Moscow, Doklady Akademii Nauk SSSR, Vol 207, No 3, Nov 72, pp 736-738

Abstract: A new method was developed for the determination of cholinesterase activity after introduction of reversible inhibitors, based on their ability to retard cholinesterase activity with irreversible organophosphorus inhibitors [POI]. The inhibition of the enzyme -- j -- can be determined by the rate of cholinesterase hydrolysis of acetylcholine after addition of POI to the investigated tissue in absence of and after addition of the reversible inhibitor. The formula for the cholinesterase inhibition is:

$$j, \% = 100 - \frac{\lg v_1/v_{t,i} \cdot 100}{\lg v_0/v_t}$$

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USSR

TONKOPIY, V. D., et al., Doklady Akademii Nauk SSSR, Vol. 207, No 3, Nov. 72,
pp 736-738

where v_1 represents respective rates of enzyme hydrolysis; v_0 -- in absence
of inhibitors, v_t -- after incubation with POI, v_i -- in presence of
reversible inhibitor, and $v_{t,i}$ -- in presence of reversible inhibitor
followed by incubation with POI. Animal experiments were carried out on
the inhibition of cholinesterase in blood and brain. Considerable de-
pression of cholinesterase activity was noted with armine as the irre-
versible inhibitor and galantamine as the reversible one, corresponding
to clinical symptoms. The Hestrin and potentiometric titration methods
showed no depression of enzyme activity.

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USSR

UDC 615.285.7.089.036.11.085.835.3

SAVATAYEV, N. V., BRESTKINA, L. M., TONKOPIY, V. D., POZHARISSKAYA, T. D., and FROLOV, S. F.

"Compressed Oxygen in the Treatment of Acute Chlorophos Poisoning"

Moscow, Farmakologiya i Toksikologiya, No 6, 1972, pp 738-741

Abstract: Injection of rats with the pesticide chlorophos (1000 mg/kg) produced the characteristic symptoms of organophosphorus poisoning in 10 minutes. Administration of oxygen under normal barometric pressure at this time had no effect on the symptoms, but it slightly increased the animals' survival time. On the other hand, oxygen under a pressure of 3 atm not only mitigated the course of the intoxication, but increased the survival time substantially. Atropine alone or administered in combination with oxygen 10 min after injection of chlorophos had no effect on the outcome of the poisoning, although it greatly relieved the symptoms. Compressed oxygen and atropine used separately 60 min after poisoning had no effect on the course or outcome, but when the two were used at the same time, they produced a marked therapeutic effect and a higher survival rate. Treatment of the animals with atropine and TMF-4 resulted in a 90 to 100% survival rate. And when the two agents were combined with oxygen, the animals were outwardly indistinguishable from controls after only 1 hour in the pressure chamber.

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USSR

UDC:620.171

GORNOSTAY, V. I., BAZHENOV, V. G., TONYUK, N. I., Zhitomir

"Test Stand for Rotating Turbine Elements"

Kiev, Problemy Prochnosti, No 10, Oct 73, pp 100-103

Abstract: A universal test stand for testing of the stress state of plastic deformation and rupture of rotating structures spinning at up to 80,000 rpm is described. The stand consists of a main portion (direct current generator and control panel), in a separate room, and the actual spinning portion. The stand can be used for long-term and short-term studies at constant or variable (including cyclical) rotating speeds under normal, high and low temperatures, in air, in a vacuum and in corrosive media. Structures up to 1400 mm in diameter and 1200 mm long at the axis can be studied. The chamber is made of reinforced concrete in the form of an arch coupled to a concrete foundation. The arch is 1000 mm thick. The inside of the chamber is lined with wooden beams and armored sheets covered with rubber plates to reduce the impact of parts following ruptures.

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TOPCHIYAN, M. Ye.

RAN / R-760 / S-74N-73

WCC. 1972.

L. SHOCK WAVES AND EXPLOSIONS IN GASES

Bayev, V. K., B. N. Kondrikov, V. P.

Korobeynikov, V. V. Mironov, R. I.

Soloukhin, and M. Ye. Topchiyan.

"Research on explosion gas dynamics and
reacting systems." FGIV, no. 2, 1971,
311-317.

The Third International Colloquium on explosion gas

dynamics and reacting systems took place on September 12-17, 1971 in
Marseilles, France. Basic topics of theoretical and experimental
research reported on were in the field of unsteady dynamic gas flow,
accompanied by physicochemical transformations of the medium; gas-
dynamic aspects of detonation; and problems of the physics and
chemistry of rocket-fuel combustion and working processes in engines.

The colloquium also dealt with the gas dynamics of explosions in space.
The conference was divided into seven sections: a) space phenomena,
b) vortex flow, c) explosion gas dynamics, d) detonation, e) shock waves,
f) gas-liquid systems, and g) reacting systems. V. P. Korobeynikov
gave a hydrodynamic description of the motion and explosion of meteorites
on the basis of the supposed explosion pattern of the Tunguska meteorite.

A session on twisted flows included a joint report by four
U.S. delegates and V. P. Korobeynikov on the influence of heat conduction
and viscosity on wave propagation of a powerful explosion. A. A.
Vasil'ev, T. P. Gavrilenko, and M. Ye. Topchiyan described planned
experimental research on the position of the Chapman-Jouguet plane in a
multifront detonation wave in gas. V. P. Korobeynikov, G. G. Chernyj,
et al. presented a theoretical analysis and an example of a numerical

USSR

UDC 615.31:547.333.47.012.1

TORF, S. E., and CHEREPANOVA, Institute of Experimental Medicine, Academy of Medical Sciences USSR, Leningrad

"Synthesis of Quaternary Ammonium Compounds Containing a Nitrodiaminopropane Link"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 7, 1972, pp 27-29

Abstract: Description of the synthesis and curariform action of quaternary ammonium salts of 2-methyl-2-nitro-N,N'-bis-(p-dialkylaminophenyl)-1,3-diaminopropane and tris-(p-dialkylaminophenylaminomethyl)-nitromethane. A table summarizes the results of pharmacologic trials of the compounds compared with d-tubocurarine. R = N(CH₃)₃I- was found to be less potent than d-tubocurarine but also considerably less toxic. It produced a significant therapeutic effect and the authors recommend its use when a muscle relaxant of the pachycurare type is indicated.

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*TONKOPIV, V D
23 Jan 73*

JPRS 50045

23 January 1973

UDC 577.150.8:577.153.4:615.785.3

DETERMINING CHOLINESTERASE ACTIVITY IN ANIMALS' TISSUES

FOLLOWING THE ACTION OF REVERSIBLE INHIBITORS

[Article by V. D. TONKOPIV, N. N. ENIKOLOV, A. I. RUMYANTSEVA, and A. V. PAVLICHENKO, Academy of Military Medicine (Inst. S. M. Kirov), Institute of Veterinary Physiology and Biochemistry (Inst. I. M. Sechenov), Academy of Sciences USSR, Leningrad (translated by Academician Ye. M. Kreps, 27 February 1972). Moscow, Doklady Akademii Nauk SSSR, Russian, Vol. 207, No. 3, 1972, pp. 736-738.]

Some reversible cholinesterase (ChE) inhibitors, including galantamine, tetrodotoxin, and others, are found in wide use in toxicology and experimental studies. When studying the relationship between the anticholinesterase activity of reversible inhibitors (I) and their biological effect, it is extremely important to know the degree of enzyme inhibition (J) in various organs and tissues of the organism following injection of these inhibitors. The magnitude of J represents the relation of ChE concentration combined in the enzyme-inhibitor complex $[EI]$ to the total enzyme concentration $[E]_0$, and, in the case of a competitive type of inhibitor, is expressed in the formula:

$$J = \frac{[EI]}{[E]_0} = \frac{[I]}{K_I + [I]}, \quad (1)$$

where $[I]$ is the inhibitor concentration in the tissue studied, and K_I is the inhibitor constant.

It would seem that the simplest way to determine the magnitude of J would be by the reduction of ChE activity in the tissue sample in relation to the substrate — the acetylcholine (ACh), for example. If the concentration of the substrate $[S]$ is relatively low and does not yet reduce the enzyme's catalytic effect (inhibition by an excess of substrate is called enzymatic or acetylcholinesterase), then the relation of v_0 , the rate of enzymatic reaction before administration of I , to v_t , the rate of enzymatic

USSR

UDC: 612.014.464-08:616-099

SAVATEYEV, N.V., Professor, Col Med Serv, TONKOPILY, V.D., Candidate of Medical Sciences, Capt Med Serv, and FROLOV, S.F.

"Oxybarotherapy of Some Acute Poisonings"

Moscow, Voyenno-Meditsinskiy Zhurnal, No 2, 1970, pp 23-28

Abstract: This review of the Soviet and foreign literature shows that oxybarotherapy (hyperbaric oxygenation) is an effective method of treating acute carbon monoxide poisoning. Animal experiments indicate that it may also be effective in treating poisoning by methemoglobinformers, cyanides, and barbiturates. Some of the hazards connected with the use of oxygen under pressure are pointed out. Further research is needed to determine optimum regimes and indications for use in different kinds of poisonings.

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USSR

UDC 669.87:669.22:669.21:539.216.2

GREBENNICK, I. P., and TONKOPRYAD, A. G., Kharkov State University imeni
A. M. Gor'kiy

"Electronographic Study of Thin Indium Films in Contact with Silver and
Gold Films"

Sverdlovsk, Metallov i Metallovedeniye, Vol 36, No 3, 1973, pp 524-528

Abstract: Processes were studied, by electronography, which occur in the contact zone of silver and gold thin films with an indium film. It was shown that phi- and $AuIn_2$ -phases are formed in the contact zone and possess a maximum indium content. Near the In-Au and In-Ag interfaces, regions of propagation are observed in which the $AuIn_2$ - and phi-phases are formed with the richest indium content. During extended annealing of indium on silver the propagation region contains the xi-phase near the silver. Movement of the boundary of the two-component region in both cases can be described as combined surface-volume diffusion with activation energies of 9 and 12 kcal/mole for propagation of indium through silver and gold, respectively. Three figures, six bibliographic references.

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USSR

UDC 533.9

VISHNEVETSKIY, V.N., VOYENKO, D. A., VOLKOV, YE. D., PIKITY, A. G., ZALKIND,
V. M., KONOTON, P. I., NOISEYEV, S. S., PAVLICHENKO, O. S., PASHKEV, V. K.,
SUPRUNENKO, V. A., TOLOK, V. T., TERESHCHENKO, F. F., TONKOPRYAD, V. H., and
TARASENKO, V. P., Physico-Technical Institute of Academy of Sciences Ukrainian
SSR, Kharkov

"Energy Losses of Plasma in a 'Uragan' Stellarator With Large Shear"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 16, No 8, Aug 71, pp 1320-1323

Abstract: Investigations of the rate of energy losses in plasma have shown that the holding time of particles significantly exceeds the energy life time when the plasma is of collision type. This article discusses the results of investigations on the rate of energy losses of collision-type plasma for the "Uragan" stellarator. The authors study the dependence of energy life time of the plasma on the amount of shear and the angle of conversion. They make extensive use of graphs to illustrate their findings and find that the experimental points lie on a straight line. The authors conclude that the results may be explained on the basis that a temperature-drift instability develops in the plasma. The article contains 5 figures and 8 bibliographic entries.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--NEW REAGENTS FOR THE PHOTOMETRIC DETERMINATION OF MERCURY -U-

AUTHOR-(04)-CHERKESOV, A.I., TONKOSHKUROV, V.S., POSTORONKO, A.I., RYZHOV,
V.N.
COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHM. 1970, 25(3), 466-73

DATE PUBLISHED----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PHOTOMETRIC ANALYSIS, CHEMICAL ANALYSIS, MERCURY

CCNTRCL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0380

STEP NO--UR/0075/70/025/003/0466/0473

CIRC ACCESSION NO--A00126135

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO—AP0126135

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO NEW REAGENTS ARE SUGGESTED FOR DETN. OF HG(III) IN ACID MEDIA: AZOXINE ASH (4,(8,HYDROXY,7,QUINOLYLAZO),5,HYDROXY,2,7,NAPHTHALENEDISULFONIC ACID) (II) AND AZOXINE TS (B,I,K 3,(8,HYDROXY,7,QUINOLYLAZO),1,5,NAPHTHALENEDISULFONATE) (III). THEIR SYNTHESIS IS DESCRIBED. I IS SOL. IN H₂O AND ALC., LESS IN ME₂CO. THE ACID SCLN. HAS A CINNAMON COLOR. II IS WELL SOL. IN H₂O AND ALC. AN ACID SOLN. HAS YELLOW COLOR. THEIR ACID DISSOCN. CONSTS. OF THE OH GROUPS WERE DETERM. SPECTROPHOTOMETRICALLY FOR I AS K_{SUB1} EQUALS 2.01 TIMES 10⁻⁴ PRIME NEGATIVE9, K_{SUB2} EQUALS 1.65 TIMES 10⁻⁴ PRIME NEGATIVE13, FOR II K_{SUB1} 3.8 TIMES 10⁻⁴ PRIME9. HG REACTS WITH BOTH REAGENTS IN A 1:2 RATIO. THE MOLAR ABSORPTIVITIES FOR THE COMPLEXES ARE 3.54 TIMES 10⁻⁴ PRIME4 AND 4.38 TIMES 10⁻⁴ PRIME4 AT 540 NM, RESP. THE TOTAL INSTABILITY CONSTS. ARE, RESP., FOR I 2.37 TIMES 10⁻⁴ PRIME NEGATIVE12 AND FOR II 4.27 TIMES 10⁻⁴ PRIME NEGATIVE10. BEER'S LAW IS OBEYED FOR 1-6 MU G HG-ML NO SUB3 PRIME NEGATIVE, SO SUB4 PRIME2 NEGATIVE, ALK. EARTH AND ALKALI METALS, PB, AL, BE, ZN, CD, SC, IN, GA AND NOT VERY LARGE AMTS. OF FE(III), BI, CU, NI, AND CC DO NOT INTERFERE WITH THE PHOTOMETRIC DETN. OF HG; BCTH REAGENTS CAN BE ALSO USED FOR THE MERCURIOMETRIC DETN. OF CHLORIDES. A PHOTOMETRIC METHOD IS SUGGESTED FOR THE DETN. OF SMALL AMTS. OF HG, WITH II AT PH 1.6 IN PURE SOLNS. AND IN ARTIFICIAL MIXTS. FE, CU, AND NI ARE MASKED WITH K₂OXALATE.

FACILITY: SARATOV PEDAGOG. INST., SARATOV, USSR.

UNCLASSIFIED

UNCLASSIFIED
TITLE--PHASE EQUILIBRIUMS IN A BISMUTH THALLIUM SYSTEM UNDER PRESSURE -U-
AUTHOR--TONKOV, E.YU., APTEKAR, I.L.

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL. METALLOVED. 1970, 29(1) 202-4

DATE PUBLISHED----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BISMUTH ALLOY, THALLIUM ALLOY, HIGH PRESSURE EFFECT, EUTECTIC,
INTERMETALLIC COMPOUND, THERMAL ANALYSIS, PHASE EQUILIBRIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0629

STEP NO--UR/0126/70/029/001/0202/0204

CIRC ACCESSION NO--AP0105608

UNCLASSIFIED

2/2 031

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0105608
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYSTEM BI-TL WAS STUDIED BY DTA UP TO A PRESSURE 20,000 KG-CM PRIME2. THE MOST INTERESTING SYSTEMS WERE THOSE CONTG. 10-52 ATOM PERCENT TL. THE EUTECTIC POINT, AT 198 DEGREES AND 23.8 ATOM PERCENT AT NORMAL CONDITIONS IS SHIFTED IN THE DIRECTION OF HIGHER BI CONCNS. BY THE ACTION OF PRESSURE. ALL ALLOYS CONTG. 15.3-37.5 ATOM PERCENT TL AT 500 KG-CM PRIME2 SHOW SPLITTING OF THE EUTECTIC TRANSFORMATION LINES. AT 10,000 AND AT 16,000 KG-CM SUB2-TL WHICH BECOMES MORE DISTINCT AND REMAINS FIXED WITH INCREASING PRESSURE AND THE OTHER MAX. AT HIGHER TL CONCNS. CORRESPONDS TO A NEW INTERMEDIATE PHASE. PHASE DIAGRAMS ARE GIVEN FOR PRESSURES OF 1, 10, PRIME5, AND 1.6 TIMES 10 PRIME5 KG-CM PRIME2.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--WORK FUNCTION OF THE, III, FACE OF IRIDIUM -0-

AUTHOR--(02)-ZANDBERG, E.YA., TONTEGODE, A.YA.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA RVERDOGO TELA, APR. 1970, 12, (4), 1124-1127

DATE PUBLISHED---APR70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--WORK FUNCTION, METAL CRYSTAL, CRYSTAL ORIENTATION, IRIDIUM,
THERMIONIC EMISSION, SURFACE IONIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1797

STEP NO--UR/0181/70/012/004/1124/1127

CIRC ACCESSION NO--AP0129165

UNCLASSIFIED

2/2

034

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0129165

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE TEMP. DEPENDENCE OF THE CURRENTS OF POSITIVE VI AND TL IONS FORMED BY THE SURFACE IONIZATION OF THE CORRESPONDING ATOMS ON THE (111) FACE OF AN IR CRYSTAL WAS STUDIED TOGETHER WITH THAT OF THE THERMIONIC (ELECTRON) CURRENT AND THE RESULTS WERE INTERPRETED IN TERMS OF THE WORK FUNCTION OF THE (111) FACE OF IR. THE WORK FUNCTION WAS SIMILAR TO 5.8 EV, THE HIGHEST OF ALL KNOWN METALLIC SINGLE CRYSTALS; IR THERMIONIC EMITTERS MAY ACCORDINGLY BE RECOMMENDED FOR PRODUCING POSITIVE IONS OF METALS WITH HIGH IONIZATION POTENTIALS BY SURFACE IONIZATION.

UNCLASSIFIED

1/2 042

UNCLASSIFIED

PROCESSING DATE--23OCT70

TITLE--EFFECT OF THE ADSORPTION OF VARIOUS SUBSTANCES ON THE SURFACE
IONIZATION OF CESIUM CHLORIDE MOLECULES ON IRIDIUM -U-

AUTHOR--(02)-TONTEGODE, A.YA., ZANDBERG, E.YA.

COUNTRY OF INFO--USSR

SOURCE--ZH. TEKH. FIZ. 1970, 40(3), 626-30

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--CESIUM CHLORIDE, IRIDIUM ALLOY, CARBON FILAMENT, SURFACE
IONIZATION, METAL FIBER, FIBER METALLURGY, PLATINUM, ADSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1970

STEP NO--UR/0057/70/040/003/0626/0630

CIRC ACCESSION NO--AP0118929

UNCLASSIFIED

2/2 042

CIRC ACCESSION NO--AP0118929

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE CHEM. COMPN. WAS DEDD. OF SURFACE IONIZATION OF MOLS., MX, ON METALS OF THE PT GROUP, AND THE PROPERTIES WERE STUDIED OF THE ADSORBED LAYERS OF SUCH PARTICLES WITH RESPECT TO THE DISSOCN. OF THE MOLS. MX. THE ADSORPTION OF O SUB2, H SUB2 AND CO ON IR HAS NO EFFECT ON THE IONIZATION OF CSCL MOLS. THE IONIZATION CEASES ON THE ADSORPTION OF C WHICH POISONS THE REACTION FOR THE DECOMPN. OF MOLS. IN THE ADSORBED LAYER. THE IONIZATION OF CSCL DIFFERS GREATLY FOR THE LAYER COVERING OF IR BY C FROM THE IONIZATION ON C FILAMENTS. THE ABS. COEFFS. OF SURFACE IONIZATION WERE MEASURED, AND THEIR TEMP. DEPENDENCE IS GIVEN FOR CSCL ON IR AND C FILAMENTS AS WELL AS ON IR FILAMENTS AS WELL AS ON IR FILAMENTS WITH DIFFERENT TYPES OF C COATINGS.

FACILITY: FIZ. TEKH. INST. IM. IOFFE, LENINGRAD,
USSR.

UNCLASSIFIED

USSR

UDC 632.95

ODINETS, A. A., TONYSHEVA, V. S., and AZIZOV, N. A.

"Carbophos as a Larvicide in Controlling Sinanthropic [sic] Flies"

Tr. VNII dezinfektsii i steriliz. (Works of the All-Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp. 21, t. 2, pp 89-94
(from RZh-Khimiya, No 18, Sep 72, Abstract No 18N424)

Translation: Using carbophos considerably reduces the fly population as a result of the effective action of the chemical on the preimaginal stages of development of the insects. In order to destroy larvae in farm livestock manure, it is recommended that 0.3-0.5% water emulsions of a carbophos (10-12 liters per cu. m) be used with an interval of 10 days between applications for conditions in the Central Asian republics. T. A. Belyayeva

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USSR

UDC 621.317.799:537.511.53 (088.8)

ASI, A.A., TOOMSO, G.K.

"Method Of Measurement Of Temperature Of P-N Junction Of Semiconductor Device"

USSR Author's Certificate No 305524, filed 13 Sept 68, published 16 July 71
(from RZh:Elektronika i veye primeneniye, No 2, Feb 72, Abstract No 23376P)

Translation: A method is proposed for measurement of the temperature of a p-n junction of a semiconductor device (which has a controlled avalanche formation in the reverse direction) by supply of a measuring current to the junction, measurement of the voltage, and determination of the temperature by means of calculations. With the object of increasing the precision of measurement, a measuring current of constant magnitude corresponding to a regime of avalanche breakdown is passed in the reverse direction.

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USSR

ASI, A. A., TOOMSOO, G. K.

UDC: 621.382:621.317.799

"A Method of Measuring the Temperature of an Electron-Hole Junction in a Semiconductor Device"

Moscow, Otkrytiya, izobreteniya, promyshlennye obruztsy, tovarnyye znaki, No 18, Jun 71, Author's Certificate No 305524, Division H, filed 13 Sep 68, published 4 Jun 71, p 178

Translation: This Author's Certificate introduces a method of measuring the temperature of an electron-hole junction in a semiconductor device which has controllable avalanche formation in the reverse direction. The procedure involves sending a measurement current through the junction, measuring the voltage, and calculating the temperature. As a distinguishing feature of the patent, measurement precision is improved by passing a current corresponding to avalanche breakdown in the reverse direction through the junction.

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1/2 012

UNCLASSIFIED

PROCESSING DATE--18SEP70

TITLE--CHARGED AND NEUTRAL ION CARRIERS THROUGH BIMOLECULAR PHOSOLIPID
MEMBRANES -U-

AUTHOR--(03)--LIBERMAN, YE.A., TOPALY, V.P., SILBERSTEYN, A.Y.

COUNTRY OF INFO--USSR

SOURCE--BIOCHIM. BIOPHYS. ACTA 1970, 196(2), 221-34

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PHOSPHOLIPID, PHOSPHORYLATION, PHOSPHORUS, SODIUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/1088

STEP NO--NE/0000/70/196/002/0221/0234

CIRC ACCESSION NO--AP0055774

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055774

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO CLARIFY THE INFLUENCE OF CONFIGURATION OF MOLS. ON THEIR MOTION WITHIN BIMOL. PHOSPHOLIPID MEMBRANES, THE ELEC. PROPERTIES OF THESE MEMBRANES IN THE PRESENCE OF SPHERICAL LIPID SOL. MOLS. OF 1,2, DICARBAODDECABORANE (BARENE) DERIVS. WERE INVESTIGATED. DECACHLOROBARENE IN THE PH REGION 2-13 IS AN EFFECTIVE CARRIER OF H PRIME POSITIVE THROUGH BIMOL. MEMBRANES, AND IS AN UNCOUPLER OF OXIDATIVE PHOSPHORYLATION. THE HG DERIVS. OF BARENE ARE CARRIERS OF THE HALOGEN AND RHODANIDE ANIONS. PHENYLDICARBAUNDECABORANE ANIONS ON THE NATURE OF THE CARRIERS WHICH CAN BE RESPONSIBLE FOR THE PROPERTIES OF EXCITABLE CELL MEMBRANES. AN ASSUMPTION IS MADE THAT K PRIME POSITIVE AND NA PRIME POSITIVE CARRIERS OF THE VALINOMUCIN OR GRAMICIDIN TYPE CAN SERVE AS EXCITABILITY INDUCING SUBSTANCES IF THE MOLS. OF THESE CARRIERS CONTAIN ONE POS. OR TWO NEG. CHEM. LINKED CHARGES, OR IF TWO OR MORE SIMILAR MOLS. ARE LINKED TOGETHER BY FLEXIBLE BONDS WHICH DO NOT HINDER THE COMPLEXING WITH CATIONS. SUCH AN EFFECT SHOULD ALSO BE OBSERVED IF THE MOBILE LIPID SOLS. MOLS. COMPLEX WITH TWO OR MORE CATIONS.

UNCLASSIFIED

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0

TITLE--COMPARISON OF THE PROPERTIES OF PHOSPHOLIPID BIMOLECULAR MEMBRANES
OF BRAIN, MITOCHONDRIA, AND BACTERIA -U-
UNCLASSIFIED
PROCESSING DATE--16OCT70

AUTHOR-(03)-LIBERMAN, YE.A., TOPALY, V.P., TSOFINA, L.M.

COUNTRY OF INFO--USSR

SOURCE--BIOFIZIKA 1970, 15(1), 69-75

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CELL MEMBRANE, PHOSPHOLIPID, BRAIN, HEART, MITOCHONDRION,
OXIDATION, PHOSPHORYLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0629

CIRC ACCESSION NO--AP0117855

STEP NO--UR/0217/70/015/001/0069/0075

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0"

6/2 025
CIRC ACCESSION NO--AP0117855

UNCLASSIFIED

PROCESSING DATE--16OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDS. OF BIMOL. MEMBRANES ARTIFICIALLY PREPD. FROM PHOSPHOLIPIDS OF BRAIN, BULL HEART MITOCHONDRIA, AND MICROCOCCUS LYSODEIKTICUS BIOMASS WERE MEASURED IN THE PRESENCE OF SELECTED UNCOUPLERS OF OXIDATIVE PHOSPHORYLATION. THE CONDS. OF BRAIN AND MITOCHONDRIAL MEMBRANES INCREASED SIMILARLY ON USING 2,4,DICHLOROPHENOL (I), TRINITROPHENOL, CARBONYLCYANIDE, 2,4,5,TRICHLOROPHENYLHYDRAZONE, CARBONYLCYANIDE,P,TRIFLUOROMETHOXYPHENYLHYDRAZONE, TETRAZENYLBORON ANION, PHENYLDICARBOUNDECABORANE ANION, N,N,DIMETHYL,N,N,DIBENZYLAMMONIUM CATION, RESP. DICUMAROL, WHICH HAD PRACTICALLY NO INFLUENCE ON BRAIN MEMBRANE, INCREASED THE COND. OF MITOCHONDRIAL MEMBRANES: 2.5 TIMES 10 PRIME NEGATIVE6 M I, TETRACHLORO,2,TRIFLUOROMETHYLBENZIMIDAZOLE, 2,4,5,TRICHLOROPHENOL, AND PENTACHLOROPHENOL HAD A GREATER INFLUENCE ON MITOCHONDRIAL MEMBRANES THAN ON THOSE OF THE BRAIN. ALL TESTED UNCOUPLERS INCREASED THE COND. OF BACTERIAL MEMBRANES. IT WAS OBSD. THAT THIS KIND OF MEMBRANE IS PENETRABLE FOR THE CATIONS OF GROUP I. THE PRESENCE OF ALK. CATION CARRIERS IN BACTERIAL MEMBRANES IS ASSUMED. ON THE BASIS OF OBSO. HIGH COEFFS. OF ANION DISTRIBUTION IN MEMBRANES, THE PRESENCE OF A LARGE POS. CHARGE IN MEMBRANES IS ASSUMED. FACILITY: INST. PROBL. INFORM, TRANSM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: None

VAL'KOV, A., KLOSOVSKIY, A., and TOPCHILOV, N.

"Field-Effect Transistors KP103"

Moscow, Radio, No. 4, April 71, pp 58-59

Abstract: Published in the "Data Sheets" department of the journal, this article gives detailed information concerning the field effect transistor, type KP103. This information includes a sketch of its structure, plan and cutaway profile views, a diagram of electrode connections, classification of transistors by types, a list of electrical parameters, drain-gate and drain characteristic curves. An earlier issue of this journal (No. 6, 1970) published the electrical parameters and practical circuits using field effect transistors of the KP102 type. It is stated that assembly-line manufacture of the KP103 has just begun. The KP103 has much in common with the KP102; it is a silicon device, is controlled through a p-n junction, and has a p-type channel.

1/1

1/2 021

UNCLASSIFIED

PROCESSING DATE--13NOV70

TITLE--GASES AND NON METALLIC INCLUSION IN MANGANESE CONTAINING FERRO
ALLOYS -U-

AUTHCR--TOPCHY, S.F.

COUNTRY OF INFO--USSR

SOURCE--IZVEST. V.U.Z., CHERNAYA, MET., 1970, (2), 53-57

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--NONMETALLIC INCLUSION, FERROALLOY, MANGANESE CONTAINING ALLOY,
FERRUMANGANESE, SILICON CONTAINING ALLOY, X RAY ANALYSIS, SULFIDE, GAS
ANALYSIS, SULFIDE, GAS ANALYSIS, OXIDE, GAS CONTAINING METAL, METAL
CONTAINING GAS, TRACE ANALYSIS, BIBLIOGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0558

CIRC ACCESSION NO--APO124253

STEP NO--UR/0148/70/000/002/0053/0057

UNCLASSIFIED

2/2 021

CIRC ACCESSION NO--AP0124253

UNCLASSIFIED

PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE GAS SATURATION OF METALLIC MN AND MN CONTG. FERRO ALLOYS WAS STUDIED BY A SPECIALLY DEVELOPED METHOD OF GAS ANALYSIS; THE NATURE OF OXIDE AND SULPHIDE INCLUSIONS OCCURRING IN THESE MATERIALS WAS ESTABLISHED BY MICROSCOPE EXAMINATION AND X RAY MICROANALYSIS. TYPICAL INCLUSIONS WERE MNO, MNS, AND SIO SUB2. THE PROPORTION OF NON METALLIC INCLUSIONS WAS GREATLY INFLUENCED BY THE SI CONTENT OF THE FERRO ALLOYS; INCREASING THE SI CONTENT MADE THESE FAR LESS IMPURE.

UNCLASSIFIED

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0

U16
TITLE--SELECTION OF A SPECIMEN FOR CONTROLLING THE EXTENT OF CONTAMINATION
OF FERROCHROMIUM -U-
AUTHOR-(03)-TUPCHIY, S.F., GAREVSKIKH, I.A., SAMSONOV, A.N.

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(3), 302-4
DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--FERROCHROMIUM, NONMETALLIC INCLUSION, SILICON, METAL INGOT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0530

CIRC ACCESSION NO--APO126278

STEP NO--UR/0032/70/036/003/0302/0304

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0"

Z/2 016
CIRC ACCESSION NO--AP0126278 UNCLASSIFIED PROCESSING DATE--20NOV70
ABSTRACT/EXTRACT--[UI GP-0- ABSTRACT. IN FECR CONTG. SMALLER THAN OR
EQUAL TO C.1-0.3PERCENT SI THE LEAST NONMETALLIC IMPURITIES WERE FOUND
IN THE CENTER OF THE INGOT, WHILE THE TOP CONTAINED MOST OF THE
IMPURITIES AND THE BOTTOM WAS BETWEEN THESE TWO. IN FECR CONTG.
1.5-1.7PERCENT SI THE DISTRIBUTION OF IMPURITIES DID NOT FOLLOW ANY
PATTERN. THE CONTENT OF GASEOUS IMPURITIES WAS NOT AFFECTED BY THE
LOCATION OF THE SAMPLE. GENERALLY, O CONCD. MOSTLY AT THE TOP OF THE
INGOT, WHEREAS N WAS CONFINED MOSTLY TO THE BOTTOM OF THE INGOT. IN
MOST OF THE INGOTS THE DISTRIBUTION OF SI IN C FREE FECR WAS UNIFORM;
HOWEVER, IN EVERY LARGE INGOTS THERE WAS CONSIDERABLE DIFFERENCE IN THE
HORIZONTAL AND VERTICAL DISTRIBUTION OF SI. FACILITY: ZAPOROZH.
MASHINGSTR. INST. IM. CHUBARYA, ZAPOROZHE, USSR.

UNCLASSIFIED

USSR

UDC 532.593+662.215.1

VASIL'YEV, A. A., GAVRILENKO, T. P., MITROFANOV, V. V., SUBBOTIN, V. A., and
TOPCHIYAN, M. Ye.

"The Position of the Point of Transition Through Sonic Velocity Behind a
Detonation Front"

Novosibirsk, Fizika Goreniya i Vzryva, No 1, 1972, pp 98-104

Abstract: An attempt is made to determine experimentally the position of the Chapman-Jouguet surface behind the front of a detonation occurring in a pipe. In pipes filled with various gas mixtures, the interaction of a detonation wave with a thin plate, situated along the pipe axis, is studied at various pressures to determine the position of the Chapman-Jouguet point. 2 figures. 1 table. 9 references.

1/1

USSR

UDC 534.222.2

VASIL'YEV, A. A., GAVRILENKO, T. P., TOPCHIYAN, M. YE.

"Location of the Chapman-Jouguet Surface in Multifront Detonation in Gases"
V sb. 3-y Vses. simpozium po goreniyu i vzryvu, 1971 (Third All-Union Symposium
on Combustion and Explosion, 1971--collection of works), Chernogolovka, 1971,
pp 199-200 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11B135)

Translation: In the example of gaseous explosive mixtures, a study was made of the transition of the steady-state detonation wave from a metal tube to a tube of the same diameter made of cellophane film. At low initial pressures of the gas mixture after the transfer of detonation to the cellophane tube, a detonation rate drop was observed, sometimes reaching extinguishing of the detonation. With an increase in pressure, beginning with some value, the detonation rate became identical in both tubes. It is proved that in the first case the detonation rate drop is connected with the occurrence of an expansion wave occurring as a result of expansion of the cellophane tube into the zone in which the gas velocity relative to the front is less than the speed of sound, that is, into the zone between the leading edge of the detonation and the Chapman-Jouguet surface. The position of the Chapman-Jouguet surface with respect to the distance between the leading edge of the wave and the place where noticeable expansion of the tube begins as a result of spreading of the walls was estimated
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USSR

VASIL'YEV, A. A., et al., 3-y Vses. simpozium po goreniyu i vzryvu, 1971, Chernogolovka, 1971, pp 199-200.

by means of instantaneous photographs of the critical detonation in the cellophane tube. By using the analytical form of the expansion trajectory of the cellophane tube, a one-dimensional numerical calculation of the profiles of the mean gas parameters behind the detonation wave was performed as a result of which it was discovered that these parameters differ essentially from those obtained by the one-dimensional Zel'dovich-Neuman theory.

2/2

- 30 -

TITLE--SPIN DETONATION NATURE OF THE TANGENTIAL HIGH FREQUENCY VIBRATIONS
IN LIQUID ROCKET ENGINE COMBUSTION CHAMBERS -U-
UNCLASSIFIED
PROCESSING DATE--30OCT70
AUTHOR-(04)-ARKOV, O.F., VOYTSEKHOVSKIY, B.V., MITROFANOV, V.V.,
TOPCHILAN, M.E.
COUNTRY OF INFO--USSR

SOURCE--PMTF ZHURNAL PRIKLADNOI MEKHANIKI I TEKHNICHESKOI FIZIKI,
JAN.-FEB. 1970, P. 155-157
DATE PUBLISHED----70

SUBJECT AREAS--ORDNANCE, PROPULSION AND FUELS

TOPIC TAGS--COMBUSTION INSTABILITY, COMBUSTION CHAMBER, ROCKET ENGINE,
LIQUID PROPELLANT, SPINNING DETONATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1549

CIRC ACCESSION NO--AP0118532

UNCLASSIFIED

STEP NO--UR/0207/70/000/000/0155/0157

2/2 064

CIRC ACCESSION NO--AP0118532 UNCLASSIFIED PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. COMPARISON OF THE MAIN FEATURES OF
A HIGH FREQUENCY INSTABILITY OBSERVED IN THE COMBUSTION CHAMBERS OF
LIQUID ROCKET ENGINES WITH THE FEATURES OF A SPIN DETONATION. IT IS
SHOWN THAT THE CONDITIONS CREATED NEAR THE ATOMIZERS OF A LIQUID ROCKET
ENGINE ARE THE SAME AS THOSE OCCURRING BEHIND THE LEADING EDGE IN A SPIN
DETONATION. IT IS CONCLUDED THAT THE OBSERVED HIGH FREQUENCY
INSTABILITY IS A SPIN DETONATION UNDER THE SPECIFIC CONDITIONS OF A
LIQUID ROCKET ENGINE COMBUSTION CHAMBER. METHODS OF PREVENTING THIS
INSTABILITY FROM OCCURRING ARE CONSIDERED.

UNCLASSIFIED

USSR

UDC 541.64:542.952/.954:006.3

BERLIN, A. Ya., and TOPCHIYEVA, I. N.

"Third Symposium on Physiologically Active Synthetic Polymers and Macromolecular Biopolymer Models"

Moscow, Bysokomolekularnyye Soyedineniya, Vol 14, No 6, Jun 72, pp 1452-1453

Abstract: The symposium was held in Riga during 16-19 November 1971. KROPACHEV, V. A., opened it with a paper on the use of polymers as carriers of medicinal functions. KRENTSEL', B. A., discussed the relationship between the polymeric structure and physiological activity, and KABANOV, V. A., -- synthesis of non-protein type macromolecules as models of enzymic activity. Thermodynamic basis of enzyme catalysis was covered by BEREZIN, I. V., and synthetic methods and properties of enzymes connected with polymer carriers -- by ANTONOV, V. K. BRESLER, S. YE., analyzed the problems of nucleic acid synthesis and modelling their functions, and GILLER, S. A., -- synthesis of nucleic acids with changing "unnatural" basic targets. In the report of PLATE, N. A., and DAUROVA, T. T., the fate of synthetic polymers in organisms was discussed and BERGEL'SON, L. D., reported on the architecture of cell membranes. Synthesis of novel medicinal compounds was the predominant topic at the symposium. Several papers covered studies of synthetic macro-
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USSR

BERLIN, A. Ya., et al, Vysokomolekularnyye Soyedineniya, Vol 14, No 6, Jun 72,
pp. 1452-1453

molecules as models of enzymic action. It was noted that cooperative studies
are needed involving multidisciplinary collaboration, and standardization of
bioassays. The attendance of biologists, pharmacologists and clinicians at
the symposium was rather disappointing, it was noted.

2/2

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"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0

TITLE--CATALYTIC PROPERTIES OF YTTRIUM DECATONIZED ZEOLITES -U-
UNCLASSIFIED PROCESSING DATE--02OCT70

AUTHOR--(04)-ROSOLOVSKAYA, YE.N., TOPCHIYEVA, K.V., ZHAVORONKOV, M.N.,
ROZANOVA, O.N.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3), 610-12
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYST ACTIVITY, YTTRIUM, ZEOLITE, ISOPROPYL BENZENE,
CATALYTIC CRACKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1906

CIRC ACCESSION NO--AT0112883

STEP NO--UR/0020/70/190/003/0610/0612

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0"

CIRC ACCESSION NO--AT0112R83
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--02OCT70

ABSTRACT. CATALYTIC PROPERTIES OF TYPE Y, Y DECATONIZED ZEOLITES, USED IN ISOPROPYLBENZENE CRACKING AT 280-450DEGREES WERE INVESTIGATED BY USING THE IMPULSE METHOD. CATION DECATONIZED SAMPLES, CONTAINING VARIOUS PROPORTIONS OF Y, NA, AND DECATONIZED RESIDUES, WERE OBTAINED IN 2 WAYS: (1) THE NA-NH₄ SUB4 FORM OF THE ZEOLITE WAS TAKEN AND THEN Y WAS INTRODUCED BY ION EXCHANGE, (2) THE INITIAL FORM WAS NA-Y ZEOLITE, INTO WHICH NH₄ SUB4 IONS WERE INTRODUCED. AN AMORPHOUS HODRY ALUMINOSILICATE WAS ALSO EXAMD. FOR COMPARISON. CELL PARAMETERS OF CRYST. SAMPLES WERE DEDT. BY USING X RAY METHODS. CELL PARAMETERS, REACTION RATE CONSTS. AT 400DEGREES, AND ACTIVATION ENERGIES FOR 8 CATALYSTS ARE TABULATED. THE RATES DIFFER CONSIDERABLY (BY A FACTOR OF 20), BUT ACTIVATION ENERGIES ARE SIMILAR, SIMILAR TO 17 KCAL-MOLE. FOR A HIGH CATALYTIC ACTIVITY, THE RATIO OF ALL 3 COMPONENTS, DECATONIZED RESIDUES, INTRODUCED CATION, AND NA CONTENT IS IMPORTANT. FOR INCREASED ACTIVITY, THE LOWERING OF THE EFFECTIVE THAN THAT BECAUSE OF AN INCREASE OF DECATONIZED PARTS IS MORE MOST CATALYTICALLY ACTIVE SAMPLE CONTAINED THE SMALLEST AMT. OF NA. THE ORDER OF INTRODUCTION OF CATIONS WAS OF GREAT IMPORTANCE FOR STABILIZATION OF THE ACTIVE STRUCTURE OF THE CATALYST: BETTER CATALYSTS WERE OBTAINED BY 1ST TAKING NA ZEOLITE, INTRODUCING THE TRIVALENT CATION, AND THEN REPLACING NA BY NH₄ SUB4. Y DECATONIZED ZEOLITES ARE HIGHLY EFFECTIVE CATALYSTS FOR THE CRACKING REACTION. A COMPLEX INTERACTION OF COMPONENTS WITH THE ZEOLITE LATTICE ACCOUNTS FOR THIS HIGH AND STABLE CATALYTIC ACTIVITY.

UNCLASSIFIED

TITLE--UNCLASSIFIED PROCESSING DATE--30OCT70
FORMS OF FORMIC ACID, WATER, AND METHANOL ADSORPTION ON YTTRIUM OXIDE
AUTHOR--(03)-TOPCHIYEVA, K.V., LOGINOV, A.YU., IVANKOYSKIY, V.E.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(1), 193-9
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FORMIC ACID, METHANOL, ADSORPTION, HYDROGEN BONDING, CHEMICAL
DECOMPOSITION, YTTRIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0527

CIRC ACCESSION NO--AP0119446

UNCLASSIFIED

STEP NO--UR/0195/70/011/001/0193/0199

CIRC ACCESSION NO--AP0119446
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. TWO FORMS OF ADSORPTION WERE OBSD.
MOLS. OF THE ADSORBED COMPD. FORM H BONDS WITH THE SURFACE OF Y OXIDE
AND CAUSE A STRONGLY POS. CHARGE ON THE SURFACE. THE LATTER OCCURS DUE
TO DONOR ACCEPTOR INTERACTIONS. A DISSOCIATIVE FORM OF ADSORPTION TAKES
PLACE DUE TO BOND REDISTRIBUTION OF THE ADSORBED SPECIES. HCO SUB2 H
DECOMP. ON Y OXIDE VIA THE DISSOCIATIVE FORM OF THE ADSORPTION, FORMING
Y FORMATES AS INTERMEDIATE REACTION PRODUCTS. FACILITY: KHIM.
FAK., MOSK, GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 669.15.018.8(088.8)

FEDOTOVA, L. S., ALEKSEYENKO, M. F., POTAK, YA. M., BELYAKOVA, V. A., ORZHEKII-
OVSKIY, YU. F., SHEPETOV, V. A., TOPILIN, V. V., DORONIN, V. N., KLYUYEV,
M. M.

"Stainless Steel"

USSR Author's Certificate No 276434, Filed 25 Jul 68, Published 13 Oct 70
(from RZh-Metallurgiya, No 4, Apr 71, Abstract No 41637P)

Translation: A steel for operation at temperatures up to 600° is proposed with the following composition (in %): C 0.05-0.09, Cr 10.5-12, Ni 1.4-1.8, Mo 0.35-0.5, Nb 0.06-0.15, V 0.15-0.25, Si < 0.6, Mn < 0.6, Ce < 0.02. The ratio of the alloying elements satisfies the formula $\frac{Cr}{Mo} + \frac{V}{Si} + \frac{Nb}{Nb} = 6.6$. After quenching from 1,000° and tempering at 570°, at 20, 500, and 550° the steel has σ_B of 120, 70, and 55 kg/mm², G_T of 100, 75, and 55 kg/mm², δ of 12% and ψ of 60-65%, respectively; σ_{100} and σ_{550} are 56 and 32 kg/mm², respectively.

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USSR

UDC 669.187.26:669.018.298

ZIMINA, L. N., Candidate of Technical Sciences, TSVETKOVA, V. K., Candidate of Technical Sciences, STEPANOV, V. V., Candidate of Technical Sciences, STEPANOV, V. P., Candidate of Technical Sciences, and KOSHELEVA, G. F., Engineer, Central Scientific Research Institute of Ferrous Metallurgy and Elektrostal' Plant

"Structure and Properties of the EP487 Alloy of Different Smelting Methods"
Moscow, Stal', No 6, Jun 71, pp 547-549

Abstract: On the correlation basis of structures and properties of the EP487 heat-resisting alloy produced in an open-arc furnace (OF) and subjected to electroslag or vacuum arc remelting (VR), it was found that VR must be considered the optimum smelting technology of this alloy. After VR, a spotted liquation is absent in the metal, which produces a stability of mechanical properties, the impact ductility increases in the temperature interval of hot pressure treatment, the contents of lead, oxygen, hydrogen, and nonmetallic inclusions decrease, and strength and plasticity properties at room temperature improve. The process of dispersion hardening of the alloy after VR begins at a 50% higher temperature, the δ -phase separation takes place in a smaller temperature interval ($700-850^{\circ}\text{C}$), and the carbide phase of the type M_6C and 1,2

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USSR

ZIMINA, L. N., et al., Stal', No 6, Jun 71, pp 547-549

the intermetallic phase Me_7W_6 are present in smaller quantities than in the OF metal. Five illustrations, eight bibliographic references.

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USSR

UDC:669.187.5

ZAYTSEV, B. Ye., GOTIN, V. N., SHCHERBAKOV, A. I., SERGIEV, A. B., ZHITKOV,
N. K., OKOROKOV, G. N., BOYARSHINOV, V. A., TULIN, N. A., VOYNOVSKIY, Ye. V.,
TOPILIN, V. V., POZDEYEV, N. P., SHALIMOV, Al. G., OSIPOVA, L. A., CHERNOV,
Yu. V., and RAZANOV, T. S.

"Specifics of Vacuum Arc Remelting of Nickel-Based Alloys and Stainless Steels
With Reverse Arc Polarity"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of
Works], No 75, Metallurgiya Press, 1970, pp 181-183

Translation: Results are presented from a study of vacuum arc remelting of nickel alloys in a crystallizer 380-480 mm in diameter with thermocouples caulked in length and height. The rate of melting with reverse polarity is 20% higher with identical bath depth of liquid metal. This is a result of more intensive heat transfer from the walls of the crystallizer during melting with reverse polarity. The macrostructure, chemical composition N, O, H and mechanical properties of the metal produced by melting with forward and reverse polarity are identical. The ingot produced with reverse polarity had no corona. 2 figures; 1 table; 1 biblio. ref.

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USSR

UDC 669.187.2.083

GOTIN, V. N., ZAYTSEV, B. YE., SHCHERBAKOV, A. I., ZHITKOV, N. K., OKOROKOV, G. N., BOYARASHINOV, V. A., VOYNOVSKIY, YE. B., TEFILIN, V. V., SHALIMOV, AL. G., OSIPOVA, L. M., CHERNOV, YU. V., ROZANOVA, T. S., and IAKTIONOV, V. S.

"Influence of Wall Thickness of Crystallizer and Consumption of Cooling Water on Conditions of Formation of Ingot During Vacuum Arc Remelting"

Proizvodstvo Chernykh Metallov [Production of Ferrous Metals--Collection of Works], No 75, Metallurgiya Press, 1970, pp 178-180

Translation: In a vacuum arc furnace in a crystallizer (C) 160 mm in diameter with a current of 2.0-3.7 ka, the influence of wall thickness of C and temperature of cooling water on conditions of formation of ingot of complexly alloyed nickel-based alloys is studied. C with wall thicknesses of 30 and 18 mm were studied, the temperature on the outer surface of the C reaching 75°C in the first case, 105°C in the second. The temperature of the internal surface of the C was identical, 140-150°C. Neither a change in C thickness nor a change in water consumption from 11 to 22 m³/hr influenced the depth of the liquid metal bath, i.e., both repeated rolling of the C and reduced water consumption were permissible. 2 figures.

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USSR

UDC 669.187.6

NIKULIN, A. A., ARTEM'YEV, V. D., VOLKHONSKIY, L. A., KLYUYEV, M. M., TOPILIN,
V. V., VOLKOV, S. YE., and SHARAPOV, A. A.

"Study of Methods of Acting on Processes of Crystallization of Ingots During
Electric Slag Remelting"

Proizvodstvo Chernykh Metallov (Production of Ferrous Metals -- Collection of
Works), No 75, Metallurgiya Press, 1970, pp 161-167

Translation: Results are presented from a study of the control of crystallization of an ingot by acting on the drop transfer and hydrodynamic processes in the slag and metal bath by two methods, performed on a laboratory electric slag installation. The methods are remelting of electrodes moving eccentrically relative to the axis of the crystallizer, and remelting of electrodes in a longitudinal constant magnetic field, created by a solenoid wound around the cover of the crystallizer and supplied by a controlled direct current source. 3 figures; 2 tables; 5 biblio. refs.

1/1

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USSR

UDC 669.15'26-194

BIKEZIN, K. P., LYUBINSKAYA, M. A., TOPILIN, V. V., ZUBKO, A. M., and
DZUGUTOV, M. Ya.

"Developing Production Techniques and Determining the Characteristics of
Low-Carbon Kh28-VI Steel"

Moscow, Stal', No 2, Feb 71, pp 162-166

Abstract: This steel differs from the known Kh28 type by its especially low carbon content. While steels of high chromium content are known to be highly brittle at room temperature and are consequently limited in their application in objects operating under shock conditions, the low carbon content of Kh-28VI steel provides a shock strength of more than 20 kg/cm² with high resistance to corrosion. Its coefficient of thermal expansion is close to that of glass, so that it can be joined to that substance. Three techniques for obtaining iron with a carbon content of less than 0.01% had to be tested before the steel could be produced. Details of the process finally decided upon are given together with the steel's chemical composition, and the results of heat deformation tests are presented. There is a table of the steel's mechanical qualities for different 1/2

USSR

BIKEZIN, K. P., Stal', No 2, Feb 71, pp 162-166

variations of its carbon content and treatment. The metal is manufactured in a vacuum induction furnace using high-purity iron and electrolytic chromium.

2/2

USSR

UDC 621.039

RUKHLO, V. P., and TOPIL'SKIY, I. N.

"Source of Thermal Neutrons With a Given Spatial Distribution in the IRT-MIFI Reactor"

V sb. Fiz. yadern. reaktorov (Physics of Nuclear Reactors -- Collection of Works), No 2, Moscow, Atomizdat, 1970, pp 187-190 (from RZh-Fizika, No 4, Apr 71, Abstract No 4V581)

Translation: An experimental setup is described for obtaining a vertical beam of thermal neutrons from a horizontal thermal column. The setup consists of a prism with a cavity and with a scatterer in this cavity. Prisms of graphite, lead, and paraffin with cavities of different dimensions were investigated. It is shown that the best material for the prism is paraffin, but the distribution of neutron flux is not symmetric. The best distribution is obtained in a graphite prism with a paraffin scatterer. The neutron flux in this case with a cavity 30 cm wide and 20 cm long is 10 times greater than in the case of a graphite prism without a cavity. With the aid of such a prism, one can obtain different distributions of neutron flux. The spatial distributions of neutron flux obtained can be represented as distributions from a plane source. Yu. S. Aborin.

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USSR

DYUBKO, S. F., TOPKOV, A. N.

UDC: 621.375.82

"Improving the Monochromaticity of Hydrogen Cyanide Laser Emission"

Moscow, Kvant. elektronika--sbornik (Quantum Electronics--collection of works),
No 1(13), "Sov. radio", 1973, pp 103-105 (from RZh-Fizika, No 8, Aug 73,
abstract No 8D1058 by the authors)

Translation: The authors study the operation of a hydrogen cyanide laser emitting on $336 \mu\text{m}$. When carbon monoxide is added to the working mixture, the discharge current is reduced to 0.18 amp, while efficiency is more than tripled. The width of the emission line in operation with added CO is decreased by more than an order of magnitude. The paper gives the assumed mechanism responsible for the effect of CO on improving the population inversion of hydrogen cyanide working levels. On the basis of experiments a hydrogen cyanide laser is developed which operates effectively with a high-frequency discharge. The short-term stability of the hydrogen cyanide laser working with a high-frequency does not exceed 10^{-10} .

1/1

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Construction

USSR

TOPOLEV, P. P.

UDC 624.071.3

"Study of Metallic Nonsectional Three-Span Beams of Variable Cross Section Considering the Control of Bending Moments"

V sb. III Mezhdunar. konf. po predvaritel'no napryazh. met. konstruktsiyam. T. 4
(III International Conference on Prestressed Metal Structures. Vol. 4 -- Collection of Works), no place or year of publication, pp 122-128 (from RZh-Mekhanika, No 12, Dec 71, Abstract No 12V926)

Translation: The results of studies of symmetric three-span nonsectional metallic beams of I-beam shape enforced with rectilinear quarry stones at the middle supports and considering control of bending moments by artificial settling of the regional supports to lower beam weight are presented. The most favorable combination of loads of spans of beams by constant and temporary loads for bending moments in dangerous cross section of the beams in the spans and on the middle supports are discussed. Computational formulas for bending moments in dangerous cross sections of the beam are constructed on the basis of the calculation of nonsectional beams of various cross sections on the basis

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USSR

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0

of a statically determined diagram (see Vol'vich, S. I., Zotov, B. Ye. in "Collection of Scientific Communications of Saratov Automobile and Highway Institute", 1957, No. 7, pp 53-56 -- RZhMekh., 1958, No 5, Abstract No 5900). These formulas make it possible to vary the initial parameters and to find the optimal values of the settling of the end supports to achieve rational distribution of the bending moments. Tables are given for replacing concentrated loads with equivalent uniformly distributed loads. An intensification of the role of artificial regulation of the bending moments to reduce the weight of the beam upon the rise of temporal loads is noted. A. F. Anishchenko.

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APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0"

USSR

TOPOL'SKIY, N. G.

UDC: 577.4

"Coding and Optimizing Synthesis of Abstract Automata in a
Universal Computer Medium"

V sb. Vychisl. sistemy (Computer Systems--collection of works),
vyp. 47, Novosibirsk, 1971, pp 3-17 (from RZh-Kibernetika, No
8, Aug 72, Abstract No 8V436)

[No abstract]

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USSR

TOPOL'SKIY, N. G., DROVYANNIKOV, A. Ya.

"Method of Optimization of Synthesis of Finite Automata in a Computing Medium"

Vychisl Sistemy [Computer Systems -- Collection of Works], Novosibirsk,
No 41, 1971, pp 77-89, (Translated from Referativnyy Zhurnal, Kibernetika,
No 3, 1972, Abstract No 3 V322).

NO ABSTRACT.

1/1

USSR

UDC 621.791.754.546.821

GUREVICH, S. M., Doctor of Technical Sciences, ZAMKOV, V. N.,
Candidate of Technical Sciences, PRILUTSKIY, V. P., TOPOL'SKIY,
V. F., and DYKHNO, S. L., Engineers

"ANT-23A Flux for Argon-Arc Welding of Titanium Alloys"
Kiev, Avtomaticheskaya Svarka, No 6 (243), Jun 73, p 75

Abstract: Argon-arc welding is often used for the manufacture of structures from titanium alloys. Use of the ANT-17A flux permits one-time operation thus ensuring its wide-spread application. However this flux has certain disadvantages in welding thin-sheet metal below 5 mm. Thus the ANT-23A flux has been developed as a highly effective medium to replace the ANT-17A. Using the ANT-23A it is possible to carry out a second welding without first cleansing the surface. Adhesion of the flux and the titanium is much lower and the slag film can be easily removed with a steel brush. The mechanical properties of the joints correspond to those of the base metal. The flux has successfully undergone testing under industrial conditions and is being used in the commercial production of titanium products.

USSR

TOPORETS, A. S.

UDC 535.2

"On the Transmission of Light Through a Rough Surface. II"
Leningrad, Optika i Spektroskopiya, Vol 34, No 5, May 73, pp 970 - 975

Abstract: Previous experiments reported by Toporets and Taganov in Volume 32, Page 582 of this journal, showed that there are diffuse and directed components of the light passing through a rough surface, and that the intensity of the directed component is a function of the angle of incidence and the wave length of the incident radiation. This article presents a more detailed interpretation of the phenomenon. The directed radiation is considered to consist of two components: a) those waveforms which emerge on the rough surface of the transparent material at points that are equidistant from the entry on the smooth side, so that they have a phase difference of zero; b) those components which travel different distances within the transparent medium and emerge with different phases. The former component predominates when the angle of incidence is less than 50° , the latter when it is greater than 60° . These conclusions agree with the experimental results which show the directed component declining as the angle of incidence increases until a minimum is reached at about 60° , after which the directed component increases again.

1/1

UDC 535.243.25:535.36

TOPOKETS, A. S., MAZURENKO, M. M. and IGIVAT'YEVA, M. G.

"A Goniospectrophotometer for Measuring the Spatial Indicatrix of Light Dispersion"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No. 2, Feb 73, pp 32-37

Abstract: A two-beam instrument for measuring the spatial indicatrix of light dispersion with one static detector is described. Illumination of the sample is possible at any angle from 0 to 85° from above and below, in the spectral region 0.4 to 0.8 microm. The indicatrix may be recorded from any point of the half-space either in a meridional or a parallel plane. The strength of the light scattered by the sample and also the coefficient of luminosity are registered. An expression for the ratio of the electrical signals in the measuring and reference channels is derived. The indicatrix of milky glass MS14 is presented as an example of machine function.

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USSR

UDC 620.193.43

BULER, P. I., TOPORISHCHEV, G. A., YESIN, O. A., KOPYSOV, V. A.,
and LEPINSKIKH, V. B., Ural Polytechnic Institute imeni
S. M. Kirov

"Anodic Behavior of Nickel in Melted Sodium Tetraborate"

Moscow, Zashchita Metallov, Vol 19, No 2, Mar-Apr 73, pp 196-198

Abstract: The anodic oxidation of nickel in melted sodium tetraborate was investigated in air at 800-900 °. The anodic polarization of Ni (curves $\Delta_f - i$) was determined under galvanostatic and potentiostatic conditions. The current efficiency of Ni was defined from the anodic mass decrease and the current efficiency of 0 from the volume of separated gas. The anodic dissolution of Ni in bivalent form ($Ni(\text{metal})=Ni^{2+} + 2e^-$) with 80-85% current efficiency is characterized principally by the initial part of the polarization curves. Followed by concentrating polarization, the anodic dissolution of Ni leads to the development of a passivating film. The latter, gaining a hole conductivity, becomes the outer surface of the electrode on which the discharge of oxygen ions is realized. Together with this process, a partial oxidation proceeds of bivalent to trivalent Ni on the oxide-electrolyte boundary. Three figures, eight bibliographic references. 1/1

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0

LITLE—KINETICS OF THE REDUCTION OF MANGANESE FROM SLAG -U-
UNCLASSIFIED PROCESSING DATE--30OCT70

AUTHOR—(03)-TOPORISHCHEV, G.A., STRELTSOV, A.K., YESIN, D.A.

COUNTRY OF INFO—USSR

SOURCE—IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(3), 13-17

DATE PUBLISHED—70

SUBJECT AREAS—MATERIALS, CHEMISTRY

TOPIC TAGS—SLAG, MANGANESE OXIDE, CHEMICAL REDUCTION, SILICON

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—2000/1547

CIRC ACCESSION NO—AP0125173

STEP NO—UR/0148/70/013/003/0013/0017

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0"

CIRC ACCESSION NO--AP0125173
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

ABSTRACT. POTENTIOSTATIC AND GALVANOSTATIC METHODS WERE USED TO DET. KINETIC PARAMETERS OF THE REDN. OF MN IN SLAG. MnO (0.03-0.50PERCENT) WAS INTRODUCED INTO THE SLAG ACTING AS AN ELECTROLYTE AND CONSISTING OF 38PERCENT SiO SUB2, 37PERCENT CaO, AND 25PERCENT Al SUB2 O SUB3. MOLTEN IRON, SATD. WITH H SUB2 AND CONTG. UP TO 0.4PERCENT Mn, SERVED AS A CATHODE. EXPTL. STATIONARY CURVES ARE GIVEN SHOWING SPECIFIC CURRENTS, WHOSE VALUES ARE PROPORTIONAL TO THE CONCN. OF Mn IN SLAG. UNDER STATIONARY CONDITIONS CATHODIC DEPOSITION RATE OF THIS REACTION IS LIMITED BY THE SLOW DIFFUSION OF Mn PRIME2 POSITIVE IN THE SLAG. THIS TEMP. DEPENDENT DIFFUSION CONST. WAS DEDT. AS D SUBMN PRIME2 POSITIVE EQUALS 9.8 TIMES 10 PRIME NEGATIVE3 EXP (-13,000-T) CM PRIME2-SEC FROM EXPTL. DATA AT 1632 AND 1673DEGREES. THE REDN. OF Mn FROM SLAG BY C IS ASSUMED TO FOLLOW THE SCHEME (MnO) MINUS (SiO) PLUS (CO), WITH AN EQUIL. CONST. LOG K SUB1 EQUALS PLUS (C) EQUALS (Mn) PLUS (CO) EQUALS (Mn) PLUS (Si) EQUALS (Mn) MINUS (SiO) PLUS 8.57. IF THE METAL CONTAINS Si AT A CONCN. MUCH HIGHER THAN EQUIL., THEN THE POSSIBLE PROCESS IS (MnO) PLUS (Si) EQUALS (Mn) PLUS (SiO), WITH EQUIL. CONST. LOG K SUB2 EQUALS (4180-T) MINUS 1.75 LOG T PLUS 5.27. CALCNS. SHOW THAT THE RATE OF REDN. WITH Si IS 3 ORDERS HIGHER THAN THAT WITH C. HENCE, IN DIFFUSIONAL REGIME, THE REDN. WITH Si IS MORE PROBABLY. Si ALSO ACCELERATES THE DESULFURIZATION PROCESS.

FACILITY: URAL. POLITEKH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED

TITLE--KINETICS OF MULTICOMPONENT REACTIONS AT METAL-SLAG INTERFACE -U-
UNCLASSIFIED
PROCESSING DATE--09OCT70

AUTHOR-(03)-CHURKIN, A.S., TOPORISHCHEV, G.A., YESIN, O.A.
COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(2), 5-9
DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--IRON OXIDE, MANGANESE OXIDE, MANGANESE, SULFUR, SLAG, CALCIUM
OXIDE, ALUMINUM OXIDE, MAGNESIUM OXIDE, MULTICOMPONENT CHEMICAL MIXTURE,
DESULFURIZATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/1907

CIRC ACCESSION NO--AT0114347

UNCLASSIFIED

STEP NO--UR/0148/70/013/002/0005/0009

2/2 021

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0114347

ABSTRACT/EXTRACT--(U) GP-0 ABSTRACT. THE EFFECT OF THE SIMULTANEOUS
PRESENCE OF MN, MNO, AND FEO ON THE DEGREE OF DESULFURIZING, Z, OF CAST
IRON, FE-C SUBSAT-MN-S, WAS STUDIED FOR A SLAG CONIG. CAO 41.5, AL SUB2
U-SUB3-52.8, MGO 5.7, AND FEO PLUS MNO 0.2PERCENT. INCREASING THE
CONCN. OF MN, (MN), IN THE METAL INCREASED Z. INCREASING (MN)
(1.95-4.2PERCENT) INCREASED Z SHARPLY AND REDUCED THE PERIOD IN WHICH
THE MAX. DEGREE OF POSSIBLE DESULFURIZATION, THETA, WAS ATTAINED. THE
EFFECT OF (MN) WAS GREATER THAN WITH THE CONCN. OF MN IN THE SLAG (MN).
THE EXPTL. RESULTS WERE CORRELATED WITH VALUES CALCD. BY USING EQUATIONS
DEVELOPED PREVIOUSLY (CHURKIN, ET AL., 1969). INCREASING (FEO)
INCREASED THETA. INCREASING (MN) LOWERED THE PARTICIPATION OF FEO IN
THE TRANSFER OF S FROM THE METAL TO THE SLAG. THE ADDN. OF MNO TO THE
SLAG LOWERED THE RATE OF DESULPURIZATION. FACILITY: URAL.
POLITEKH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC: 681.3.06:51

KIZHNER, S. G., TOPORISHCHEVA, S. A., and EPSHTEYN, A. M.

"Program Control of Initial Data"

Tr. NII avtomob. prom-sti (Transactions of the Scientific Research Institute of the Automotive Industry) No 1(3), 1972, pp 3-6 (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 12, 1973, Abstract No 12B148)

Translation: Use of the electronic computer for solving problems connected with the processing of large masses of economics information requires effective control of the correct preparation of the initial data in the machine. One of the variants of initial data program control, designed for the class of documents in tabular form, is considered. One illustration. Resume.

1/1

USSR

UDC 8.74

IOFFE, P. D., ~~TOPORISHCHEVA, S. A.~~, KARMAKOV, T. N., KHERUVIMOVA, L. P.

"Programming System Based on the LS Language"

Tr. N.-1. i proyekt. in-ta mekhaniz. i avtomatiz. upr. proiz-vom v avtomob.
Promstfi (Works of the Scientific Research and Planning and Design Institute
of Mechanization and Automation of Production Control in the Motor Vehicle
Industry), 1971, vyp. 2, 139-143 (from RZh-Kibernetika, No 7, Jul 72,
Abstract No 7V596)

Translation: A programming system is described which was created on the basis
of the LS algorithmic language. The basic succession of development of the sys-
tem is discussed. A brief description is presented of the composition and
structure of the system, the types of operations performed by it, and the
sequence in which the operations are performed during its operating process.

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TITLE--PAPFARATION OF FILMS OF ORGANIC MATERIALS AS ANALYZERS FOR THE
UNCLASSIFIED
ULTRASOFT X RAY SPECTRAL REGION -U-
AUTHOR--(05)-SLOVYEV, A.M., CHERNOBEREZHSKIY, YU.M., VANKLOVICH, A.I.,
KUZMIN, T.A., TOPORKOV, S.A.
COUNTRY OF INFO--USSR

SOURCE--VESTN. LENINGRAD. UNIV., FIZ., KHM. 1970, (1), 163-5
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS, MATERIALS

TOPIC TAGS--BARIUM COMPOUND, LEAD COMPCUND, X RAY SPECTRUM, STEARIC ACID,
PLASTIC FILM, BORON, CARBON, NITROGEN, MICRUCHEMICAL ANALYSIS EQUIPMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1125

CIRC ACCESSION NO--AP0128552

UNCLASSIFIED

STEP NO--UR/0054/70/000/001/0163/0165

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0

UNCLASSIFIED
ACCESSION NO--AP0128552

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING THE LANGMUIR BLODGETT METHOD, THE TITLE FILM ANALYZERS HAVE BEEN PREP. ON THE BASIS OF BA AND PB SALTS OF STEARIC, BEHENIC, AND LIGNOCERIC ACIDS, WITH INTERPLANAR DISTANCES OF 50, 60, AND 65 ANGSTROM, RESP. THE SAMPLES OBTAINED HAVE GOOD REGISTRATION FOR K ALPHA LINES OF B, C, AND N; THIS ALLOWS THE MICROANAL. OF THE ELEMENTS WITH HIGH SENSITIVITY.

PROCESSING DATE--13NOV70

UNCLASSIFIED

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R002203320009-0"

UDC 669.01:539.43

USSR

KUDRYAVTSEV, I. V., KOLODEZNYY, L. A., ~~TOPOROV, G. V.~~, BURMISTROVA, L. N.,
Central Scientific Research Institute of Technology and Machinery Manufacture,
and TMSI (expansion unknown)

"Effectiveness of the Cold Hardening of Steel with Impact-Cyclic Loading Under
Low-Temperature Conditions"

Kiev, Problemy Prochnosti, No 1, Jan 72, pp 84-89

Abstract: Here are presented the results of an investigation of three kinds of steel, with and without hardening by surface plastic deformation, for resistance against impact-fatigue failure at temperatures of +20 and -50° C. The spread of fatigue cracks was studied in order to provide information on the mechanism of fatigue-impact failure. It is shown that the effect imparted by cold hardening becomes more pronounced as the stress level decreases. Decreasing the test temperature increases the resistance to fatigue failure, but the incrementation of longevity is considerably greater for hardened specimens. Tests of the same steels for impact viscosity at various temperatures showed that the presence of hardening had an adverse affect only if the cold-hardened layer is quite deep. Two tables, 3 figures, 22 references.

1/1

USSR

TOPOROV, O. A.

621.923.0:44-531.731

"Two-Component Dynamometer With Eight-Sided Elastic Element"

Stanki i Rezh. Instrumenty. Resp. Mezhdved. Nauchno-Tekhn. Sp. [Machine Tools and Cutting Tools. Republic Interdepartmental Scientific-Technical Collection] No. II, 1969, pp 29-32 (translated from Referativnyy Zhurnal Metrologiya I Izmeritel'naya Tekhnika, No. 4, 1970, Abstract No. 4.32.402, unsigned)

Translation: The problems involved in using eight-sided elastic elements (E) in tensometric dynamometers for measurement of cutting forces are analyzed. The methods and results of an experimental check of the mutual influence of the components in two-component dynamometers with eight-sided elastic E with changes in certain parameters of the latter are described. On the basis of data from tests of the indications of three dynamometers, it is concluded that the rigidity of the eight-sided elastic E and the measured load should correspond, that there is an optimal thickness of the elastic E rod with other parameters as indicated, that the material of the elastic E is not important in the mutual influence of the components. Three illustrations, two tables, six bibliographical references.

1/1

Reliability Theory

UDC: 621.396.6.019.3

USSR

TOPOROVA, A. A.

"On Additional Capital Investments to Improve the Reliability of Electronic Radio Equipment"

Tr. Leningr. politekhn. in-ta (Works of the Leningrad Polytechnical Institute), 1970, No 317, pp 20-24 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V230)

Translation: The paper deals with the specific aspects of computing additional capital investments to improve the reliability of electronic radio equipment. The relationship is given between the methods of calculating the individual components of capital investments and the methods of improving reliability. Methods are presented for calculating additional expenditures for the most extensively encountered cases: easing the operating conditions of elements, using elements of increased reliability and providing standby equipment. Resumé.

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UNCLASSIFIED

PROCESSING DATE--23OCT70

1/2 020

TITLE--ON THE CLINICAL PICTURE OF MONOOR'S DISEASE -U-

AUTHOR--(04)-VASYLEV, T.V., SHIBANOV, V.A., OVSYANNIKOV, L.M.
TOPOROVSKIY, L.M.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 68-71

DATE PUBLISHED----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--REPRODUCTIVE SYSTEM, GENITOURINARY SYSTEM DISEASE, LESION,
VENEREAL DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1998/2048

FTRC ACCESSION NO--AP0122277 UNCLASSIFIED

STEP NO--UR/0206/70/000/005/0063/0071

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 020
CIRAC ACCESSION NU--AP0122277
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE LAST 12 YEARS THE AUTHORS
OBSERVED 13 PATIENTS WITH MONDOR'S DISEASE IN THE PENIS. CLINICAL
MANIFESTATIONS OF THE DISEASE CONSISTED IN STRANDS IN THE INNER FOLD OF
THE PREPUCE AND IN THE CORONAL SULCUS, OF DENSELY ELASTIC CONSISTANCE
AND SLIGHTLY TENDER UPON PALPATION. SOMETIMES THE SURFACE OF THE SKIN
ABOVE THE STRANDS UNDERWENT EROSION OR WAS ULCERATED AND IN THESE CASES
THE CLINICAL PICTURE WAS SIMILAR TO THAT OF INDURATED CHANCRE. A
CAREFUL CLINICAL AND LABORATORY EXAMINATION IN THE HOSPITAL AND
SUBSEQUENT CLINICAL SEROLOGICAL FOLLOW UP FOR 6-12 MONTHS PERMITTED TO
EXCLUDE SYPHILIS. IN THESE PATIENTS COMPLETELY. IT IS EMPHASIZED THAT
MONDOR'S DISEASE MAY NOT INFREQUENTLY SIMULATE PRIMARY SYPHILIS WHEN
LOCALIZED IN THE PENIS. IN SUCH CASES A COMPLEX CLINICAL LABORATORY
EXAMINATION MUST BE CARRIED OUT IN ORDER TO EXCLUDE SYPHILIS.
FACILITY: OTDEL SIFILIDOGO TSENTRAL'NOGO N-I
KOZHNO-VENEROLOGICHESKOGO INSTITUTA MINISTERSTVA ZDRAVOKHRANENIYA SSSR
I BOL'NITSA IM. V. G. KOROLENKO, MOSCOW.

UNCLASSIFIED

USSR

UDC: 621.396.6-181.5

TOPOROVSKIY, S. A., SMOLENSKAYA, G. N., Institute of Control Computers

"A Method of Making Multilayered Thin-Film Structures"

USSR Author's Certificate No 280593, filed 10ct 68, published 10 Dec 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V238 P)

Translation: A method is proposed for making multilayered thin-film structures. The procedure is based on sequential application of current-conducting layers on a substrate, and treating the conductive layers after application of each dielectric layer through its defective sections with a chemical reagent which does not interact with the material of the dielectric layer. To keep the parameters of the structure constant during treatment, a reagent is used which forms a dielectric film on the surface of the conductive layer made up of compounds of the conductive material and the reagent, e. g. a solution of $K_2Cr_2O_7$ in the case of a copper conductive layer.

1/1

Nuclear and Atomic

UDC: 533.95

USSR

TOPTYGIN, I.N."Acceleration of Particles by Low-Amplitude Magnetohydrodynamic Waves"

Moscow, Tr. Mezhdunar. Seminars po Probl. Uskoreniye Chastits v Kosmich Prostranstve (Okolozem. i Mezoplanet. Kosmich. Prostranstve), Galaktike i Metagalaktike (Transactions of International Seminar on Problems of Particle Acceleration in Cosmic Space (paraearth, intraplanet), Galaxy, Metagalaxy), 1972, pp 55-84 (from Referativnyy Zhurnal-Mekhanika, 1973, Abstract No 2B119 by A. A. Barmin)

Translation: A number of problems of particle interaction with low-amplitude magnetohydrodynamic waves with random phases and wave vectors isotropically distributed in space subject to strong, external, uniform magnetic field are investigated. The case of small and large scale pulses relative to Larmor radius is considered. Boltzman equation with random electromagnetic fields due to magnetohydrodynamic waves is investigated (see, for instance, Gal'perin, B.A., Toptygin, I.N. and Fradkin, A.A., Zh. eksperim. i teor. fiz. (Journal of Experimental and Theoretical Physics) 1971, No 60, p 692). The case of alven
1/2

USSR

TOPTYGIN, I. N., Tr. Mezhdunar. Seminars po Probl. Uskorenij Chastits v Kosmich Prostranstve, 1972, pp 55-84

waves in incompressible fluid and of fast alven waves in cold compressible plasma is examined. It is shown that the acceleration effectiveness is different for the fast and alven waves due to different dispersion laws. The contribution of Cherenkov and cyclotron resonance to the acceleration is calculated. The particle isotropization time and diffusion coefficient are determined.

The effect of reflection from moving surfaces (Fermi effect) and of through-flying particles on particle acceleration in the case of large-scale pulses is estimated. Relative effectiveness of various acceleration mechanisms is given. It is shown that with sharply receding pulse spectrum the function of accelerated particles distribution is essentially anisotropic on account of fast dissipation of low-scale pulses as compared to Fermi mechanism. 20 references. English resume.

2/2

- 81 -

UDC: 533.95:537.84

USSR

TOPTYGIN, I. N.

"Propagation and Damping of Magnetohydrodynamic Waves in Interplanetary Space"

Leningrad, IV Leningr. mezhdunar. seminar "Yedinoobraziy uskoreniya chasits v razlich. masshtabakh kosmosa", 1972--sbornik (Fourth Leningrad International Seminar on the Uniformity of Particle Acceleration on Different Scales of the Universe, 1972--collection of works), 1972, pp 267-292, discussion p 292 (from RZh-Fizika, No 6, Jun 73, abstract No 6G11)

Translation: The nonlinear logarithmic decrements of magnetohydrodynamic waves in a rarefied plasma are evaluated as to order of magnitude. It is found that the nonlinear decrement of a fast magnetohydrodynamic wave varies with amplitude as $B_a^{-3/2}$. The nonlinear decrement of an Alfvén wave on low frequencies is proportional to B_a^2 , and at high frequencies to $B_a^{-3/2}$. It is shown, on the basis of the resultant data, that magnetoacoustic waves with a wavelength of $5 \cdot 10^6$ km or less are damped in interplanetary space at distances not exceeding 1 astronomical unit from the point of emission. Alfvén waves with wavelengths greater than 10^6 km propagate to distances of more than 10 astronomical units. The changes in wave characteristics with propagation in interplanetary space are found in the geometric optics approximation. The results of the calculation agree with experimental data.

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UDC 523.165

USSR

TOPTYGIN, I. N., M. I. Kalinin Polytechnical Institute, Leningrad
"Dispersion of Particles in Interplanetary Space and the Characteristics of Solar Corpuscular Winds"
Moscow, Izvestiya Akademii Nauk SSSR -- Seriya Fizicheskaya, No 11,
1972, pp 2258-2264

Abstract: This paper is part of the materials of the All-Union Conference on the Physics of Space Radiation, held in Tbilisi, 18-21 October 1971. It examines one of two types of moderate solar radiation propagation: along the lines of force of the interplanetary magnetic field, accompanying multiple dispersion and diffusion, as well as convection in the flow of magnetic heterogeneities carried by the solar wind. Recognizing that he cannot solve the entire problem, the author contents himself with considering the conditions favoring some kind of oscillation, such as electronic Langmuir oscillations, Alfvén waves propagated by proton currents, and the like. A curve is plotted for the spectrum of fast particles resulting from Langmuir oscillations, and estimates are given for concentrations of electrons and protons in the time it takes

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USSR

TOPTYGIN, I. N., Izvestiya Akademii Nauk SSSR -- Seriya Fiziches-
kaya, No 11, 1972, pp 2258-2264

for the particles to move from the sun to the earth. A mathematical analysis of the generation of Alfvén waves and of the propagation of protons in interplanetary space is also presented.

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UDC: 53.07/.08+53.001.5

USSR

ZHURAVLEVA, L. I., TOPTYGINA, N. A., ZVEREV, L. P.

"An Interference Method of Checking the Thickness of Epitaxial Films"
Uch. zap. Ural'sk. un-ta (Scientific Notes of Ural University), 1971, No
118, pp 27-35 (from RZh-Fizika, No 4, Apr 72, Abstract No 4A737)

Translation: A spectrophotometric method is proposed for determining the thickness of epitaxial films on silicon and gallium arsenide. The method is based on measuring bands of equal chromatic order. The investigated specimens were high-resistance epitaxial layers grown on a doped substrate of the same material. If the epitaxial layer is transparent and has a dielectric constant different from that of the substrate, then the radiation incident on the crystal will be reflected not only from the surface of the layer but also from the layer-substrate interface where the dopant concentration changes abruptly. These two beams will interfere. The position of the maxima on the interference pattern is determined not only by the thickness of the film but also by the phase shift at the boundaries which may be determined with regard to the dispersion of optical constants. The layer to be measured should be at least 1.5 μ

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USSR

ZHURAVLEVA, L. I. et al., Uch. zap. Ural'sk. un-ta, 1971, No 118, pp 27-35
thick, and the free carrier concentration ratio at the layer-substrate
interface should be at least 0.2. The method requires that the film be
plane-parallel. Measurement accuracy is 3-5%. L. Shelyakin.

2/2

- 53 -

UDC: 512.7

USSR

TOPUNOV, V. L.

"Connection Between Fields of Division of a Circle and the Ring of
Cyclical Matrices of Simple and Prime Orders"

Uch. zap. Mosk. gos. ped. in-ta im. V. I. Lenina (Scientific Notes
of the Moscow Pedagogical Institute imeni V. I. Lenin) 1971, 375,
pp 215-223 (from RZh--Matematika, No 4, 1972, Abstract No. 4A404)

Translation: It is proved that the factor-ring of a ring of cyc-
lical matrices of order n with respect to some ideal is isomorphic
to the field $Q(\sqrt[n]{1})$ for n equal to the degree of a simple number.
The ideal consists of matrices of equal elements, if $n = p$ is
simple, and is constructed in slightly more complex fashion in
the general case. V. Galkin

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USSR

UDC 547.315.2

FREYDLIN, L. Kh., LITVIN, Ye. F., and ~~TOPURIDZE, L. F.~~, Institute of Organic
Chemistry imeni N. D. Zelinskii, Acad. Sc. USSR

"Study of the Direction and Mechanism of Homogeneous Hydrogenation of Dienes
in Presence of Tris-(triphenylphosphine)rhodium Chloride"
Leningrad, Zhurnal Organicheskoy Khimii, Vol 8, No 4, Apr 72, pp 669-674

Abstract: Hydrogenation in presence of $\text{RhCl}(\text{PPh}_3)_3$ was studied using
cis-1,3-pentadiene (I), trans-1,3-pentadiene (II), 2-methyl-1,3-butadiene (III), 2,3-dimethyl-1,3-
butadiene (IV); for comparison, monoolefines (V), 1,3-butadiene (V) and
1,4-pentadiene (VI). The hydrogenation rate depends on the structure of the dienes, decreasing
in the following order: (VI) > (I) > (III) > (IV). The conjugated
dienic C=C bonds are hydrogenated much more selectively over $\text{RhCl}(\text{PPh}_3)_3$
than over rhodium black. (IV) adds hydrogen preferentially at the 1,2-
position, while (III) does it exclusively so. During the 1,4-addition
of hydrogen, (V) reacts predominantly in the cis-conformation, while
(VI) does it in the trans-conformation.

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1/2 027 UNCLASSIFIED PROCESSING DATE--30UL10
TITLE--BEHAVIOR OF SPHERICAL POLYMER PARTICLES UNDER CONDITIONS OF STRAIN
DEFORMATION -U-
AUTHOR-(04)-KARGIN, V.A., SOGOLOVA, T.I., SHAPOSHNIKOVA, T.K., TOPURIOZE.
N.S.
COUNTRY OF INFO-USSR
SOURCE--VYSOKOMOL. SOEDIN. SER. A 1970, 12(4), 906-10
DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--NATURAL RUBBER, BUTADIENE STYRENE RESIN, ELONGATION, MATERIAL
DEFORMATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1685

STEP NO--UR/0459/70/012/004/0906/0910

CIRC ACCESSION NO--APC125306 UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 027
CIRC ACCESSION NO--AP0125306 ABSTRACT. THE ADDN. OF THE SPHERICAL ABSTRACT/EXTRACT--(U) GP-0- DROPLETS OF NATURAL RUBBER LATEX OR BUTADIENE STYRENE COPOLYMER LATEX TO PARTIALLY EVAPD. SOLNS. OF THESE RUBBERS IN C SUB6 H SUB6, FOLLOWED BY EVAPN. GAVE MODELS OF FILMS CONSISTING OF AMORPHOUS PHASE AND LARGE (5-300 MU DIAM.) GLOBULES. THE OPTICAL MICROSCOPY OF THESE MODELS SUBJECTED TO ELONGATING STRESSES SHOWED THAT THE DEFORMATION OF THE GLOBULES (CONTINUOUS OR STEPWISE) DEPENDS ON THEIR NO., DISTRIBUTION, AND INTERACTIONS WITH THE AMORPHOUS PHASE. FACILITY: FIZ.-KHM.
INST. I.M. KARPUVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 029
TITLE—MASS EXAMINATION OF THE VISUAL ACUITY THROUGH THE TV MEDIUM

PROCESSING DATE—30OCT70
—U-

AUTHOR—TOPURIYA, G.R.

COUNTRY OF INFO—USSR

SOURCE—VESTNIK OFTAL'MOLOGII, 1970, NR 3, PP 83-85

DATE PUBLISHED—70

SUBJECT AREAS—BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS—OPHTHALMOLOGY, VISUAL ACUITY, TV RECEIVER, EYE DISEASE,
DIAGNOSTIC MEDICINE

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—3001/1949

CIRC ACCESSION NO—AP0127350

UNCLASSIFIED

STEP NO—UR/0357/70/000/003/0083/0085

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 029
CIRC ACCESSION NO—APO127350
ABSTRACT/EXTRACT—(U) GP-0— ABSTRACT. TO MAKE A SIMULTANEOUS MASS
EXAMINATION OF THE VISUAL ACUITY IN THE POPULATION OF THE GEORGIAN SSR
TELEVISION TRANSMISSION WAS USED FOR THE FIRST TIME IN THE PRACTICE OF
CLINICAL OPHTHALMOLOGY. RECOMMENDATIONS AS TO THE PROCEDURES TO BE
EMPLOYED IN CHECKING ON THE VISUAL ACUITY BY THE TV AGENCY ARE GIVEN.
COMPARATIVE FINDINGS ON THE VISUAL ACUITY AS ELICITED BY TV AND ORDINARY
CLINIC ALMETHOD TURNED OUT TO BE ALMOST EQUIVALENT. SITTINGS OF THE
MASS TV DETERMINATION OF THE VISUAL ACUITY IS A NEW PROMISING METHOD,
WHICH CAN PLAY A SIGNIFICANT PART AMONG PROPHYLACTIC MEASURES UNDERTAKEN
WITH A VIEW TO AN EARLY DETECTION OF LOWERED VISUAL ACUITY STEMMING FROM
ABNORMAL REFLECTION AND VARIOUS EYE DISEASES. FACILITY: RESUP
LANSKAYA GLAZNAYA KLINICHESKAYA BOL'NITSA IM G. A. TARSANDZE, TBILISI.

UNCLASSIFIED

UDC 621.039.51

USSR

TOPYRIN, L. S., and STAROSTENKO, N. N.

"Analysis of Effectiveness of Heat Engineering Installations with Dissociating Working Fluid"

Dissotsiiruyushch. Gazy kak Teplonositeli i Rab. Tela Energ. Ustanovok (Dissociating gasses as heat-transfer media and working fluids in power installations -- collection of works), Minsk-Nauka i Tekhn. Press, 1970, pp 61-68 (from Referativnyy Zhurnal-Yadernyye Reaktory, No 3, 1971, Abstract No 3.50.74)

Translation: The principles of construction of a mathematical model and certain results of investigation of the effectiveness of a gas-liquid atomic power plant cycle with a dissociating gas as the working fluid in the secondary loop are presented. The studies performed have demonstrated the high effectiveness of using a mathematical model of an atomic power plant with dissociating gas as the working fluid and have confirmed the necessity of a combined approach to solution of the problems of optimization of parameters and the profile of modern thermal power plants.
5 figures, 5 biblio. refs.

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UDC 617-001.28-036.11-06:617-001.32

USSR

SEMELEV, V. A., UL'YANOV, M. I., TORBENKO, V. P., NAZAROV, V. A.,
GORYACHEV, A. N., and YANOVSKAYA, E. M., Radiology Department,
Central Institute of Traumatology and Orthopedics, Academy of Medical
Sciences USSR

"Symptoms and Treatment of Radiation Lesions Combined with Injury
Due to Compression of Soft Tissues"

Moscow Ortopediya, Travmatologiya i Protezirovaniya, No 1, 1970, pp
11-17

Abstract: Following whole-body irradiation (400 r) of a group of dogs, the soft tissues of their left femurs were slowly crushed (over a period of 6 hours) with a special press. The mortality rate from traumatic shock was much lower in the experimental animals than in controls (compression without irradiation) and their general resistance to the effects of crushing was higher during the first few hours after the compression period. On the 2nd and 3rd days the condition of both groups of animals was equally poor, but the improvement that was manifested in both groups on the 4th and 5th days progressed only in controls. By the 8-10th day the condition of the 1/2

USSR

SEMENOV, V. A., et al., Moscow, Ortopediya, Traumatologiya i Protezirovaniya, No 1, 1970, pp 11-17

experimental animals deteriorated sharply, and at the height of radiation sickness mortality increased sharply. Treatment of human beings suffering from crushing of soft tissues after exposure to high levels of radiation should take cognizance of the slow development of shock, changes in the hematological system, prolonged hypoproteinemia, altered critical activity, etc.

2/2

1/2 010

UNCLASSIFIED

PROCESSING DATE--30 OCT 70

TITLE—DETERMINING OPTIMUM STRESS DURING DIAMOND BURNISHING -U-

AUTHOR—TORBILC, V.M.

COUNTRY OF INFO—USSR

SOURCE—MOSCOW, STANKI I INSTRUMENT, NO 2, 1970, PP 25-26

DATE PUBLISHED—70

SUBJECT AREAS—MATERIALS, MECH., IND., CIVIL AND MARINE ENGR, EARTH
SCIENCES AND OCEANOGRAPHY

TOPIC TAGS—METAL BURNISHING, BIBLIOGRAPHY, METAL POLISHING, DIAMOND
TOOLING TECHNOLOGY

CENTRAL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED

PROXY REEL/FRAME—1999/1293

STEP NO—UR/0121/70/000/002/0025/0026

CIRC ACCESSION NO—AP0123252

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 010
CIRC ACCESSION NO—AP0123252
ABSTRACT/EXTRACT—(U) GP-0 ABSTRACT. A DEPENDENCE IS ESTABLISHED OF
STRESS ON MATERIAL HARDNESS, DIMENSIONS OF THE WORKING PART OF THE
DIAMOND, AND THE DEPTH OF ITS INTRODUCTION INTO THE SURFACE UNDERGOING
MACHINING. CRITICAL DEPTH OF INTRODUCTION VALUES ARE GIVEN FOR VARIOUS
MATERIALS AND MACHINING CONDITIONS. GOOD AGREEMENT IS SHOWN BETWEEN THE
THEORETICAL AND EXPERIMENTAL DATA.

UNCLASSIFIED

172 007 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ALKYD LINOLEUM BASED ON CAPROLACTAM BY PRODUCTS -U-
AUTHOR-(C4)-GLNCHARKO, V.M., KISELEVA, R.A., TORBINISKIY, V.V., KONSHIN,
N.P.
COUNTRY OF INFO--USSR
SOURCE--STRCIT.-MATER. 1970, (3), 19-20
DATE PUBLISHED--70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--CONSTRUCTION MATERIAL, CAPROLACTAM, ALKYD RESIN, INDUSTRIAL
BYPRODUCT, ADIPIC ACID, SUCCINIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1245 STEP NO--UR/0228/70/000/003/0019/0020

CIRC ACCESSION NO--APO128661
UNCLASSIFIED

2/2 OCT

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0128651

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CAPROLACTAM BY PRODUCTS CONTG.
ADIPIC, SUCCINIC, AND GLUTARIC ACIDS WERE ACIDIFIED WITH H-SUB2 SO-SUB4
TO PH 3, THE ORG. LAYER WAS SEPD. FROM THE AQ. SOLN., AND ALLOWED TO
REACT WITH GLYCEROL IN THE PRESENCE OF KOH TO GIVE A DARK BROWN, ALKYD
RESIN USED AS A BINDER FOR LINOLEUM.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--IMMUNODEPRESSIVE PROPERTIES OF 5,FLUOROURACIL IN A LYMPHOID CELL
CULTURE -U-
AUTHOR-(04)-UTESHEV, B.S., PINEGIN, B.V., BABICHEV, V.A., TORCHENSKIY,
G.A.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(4), 969-71
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RNA, PROTEIN SYNTHESIS, LYMPHATIC SYSTEM, ENZYME ACTIVITY,
GLOBULIN, ANTIBODY, URACIL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1004/1100

STEP NO--UR/0020/J0/190/004/0969/0971

CIRC ACCESSION NO--AT0115119

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AT0115119
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 5,FLUOROURACIL (5,FU) INDUCED DEFECTS IN RNA MOLE. AND DISRUPTED PROTEIN SYNTHESIS AT THE TRANSLATION LEVEL IN LYMPHOID CELLS, INDICATING INHIBITION OF ADAPTIVE ENZYME SYNTHESIS. PROTEINS WITH ANTIGEN STRUCTURES LACKING ENZYMATIC ACTIVITY WERE FORMED. THE GLOBULINE SHOWED DECREASED AFFINITY. THE NO. OF ANTIBODY FORMING CELLS DID NOT DECREASE AFTER 24 HR INCUBATION WITH 5 FU, INDICATING THAT THE HALF LIFE FOR INFORMATIONAL RNA IN THESE CELLS IS SEVERAL DAYS. THREE DAYS INCUBATION WITH 500 MG 5 FU-ML DID NOT SIGNIFICANTLY AFFECT THE NO. OF THESE CELLS, BUT AT 1000 AND 500 MG-ML, 5,FU DECREASED THE NO. OF ANTIBODY FORMING CELLS BY 35.0 AND 57.2PERCENT , RESP., DURING PROLONGED INCUBATION. FACILITY: II.
MOSK. MED. INST. IM. PIROGOVA, MOSCOW, USSR.

UNCLASSIFIED